

[Usenet FAQ Index](#)[Documents](#)[Other FAQs](#)

FUEL TECH, INC. - FORM 10-K - March 4, 2010

Ads by Google

[Diesel Exhaust Fluid](#) - Airgas has nationwide supply of all DEF products and equipment - www.AirgasSpecialtyProducts.com

[VW Trade-In Deals](#) - It's More than a Trade-In. It's a Trade-Up. Visit a VW Dealer Today. - www.VW.com/Pre-Owned

[Foreclosed RV Motorhomes](#) - 1000s of Foreclosed RV Motorhomes. We Do the Work, You Get the Savings - www.RVLiquidation.com

SEC Filings Search:

Attached files

File	Filename
EX-32 - EX-32 - FUEL TECH, INC.	y83029exv32.htm
EX-31.1 - EX-31.1 - FUEL TECH, INC.	y83029exv31w1.htm
EX-23.1 - EX-23.1 - FUEL TECH, INC.	y83029exv23w1.htm
EX-31.2 - EX-31.2 - FUEL TECH, INC.	y83029exv31w2.htm
EX-10.16 - EX-10.16 - FUEL TECH, INC.	y83029exv10w16.htm
EX-10.15 - EX-10.15 - FUEL TECH, INC.	y83029exv10w15.htm
EX-10.14 - EX-10.14 - FUEL TECH, INC.	y83029exv10w14.htm
EX-10.10 - EX-10.10 - FUEL TECH, INC.	y83029exv10w10.htm
EX-10.17 - EX-10.17 - FUEL TECH, INC.	y83029exv10w17.htm

[Table of Contents](#)

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 [NO FEE REQUIRED]**

For the fiscal year ended: December 31, 2009

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 [NO FEE REQUIRED]**

For the transition period from _____ to _____

Commission File No. 001-33059

Fuel Tech, Inc.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of incorporation of organization)

20-5657551
(I.R.S. Employer Identification Number)

Fuel Tech, Inc.
27601 Bella Vista Parkway
Warrenville, IL 60555-1617
630-845-4500

(Address and telephone number of principal executive offices)

Securities registered pursuant to Section 12(b) of the Act:

Common Stock \$0.01 par value per share	The NASDAQ Stock Market, Inc
(Title of Class)	(Name of Exchange on Which Registered)

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes ☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.

Yes ☐ No ☒

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted to Rule 405 of Regulation S-T (§229.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☐ No ☒

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, non-accelerated filer or a smaller reporting company (as defined in rule 12b-2 under the Securities Exchange Act of 1934).

Large accelerated filer ☐ Accelerated filer ☒ Non-accelerated filer ☐ Smaller reporting company ☐

(Do not check if a smaller reporting company)

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes ☐ No ☒

The aggregate market value of the voting stock held by non-affiliates of the registrant based on the average bid and asked prices of June 30, 2009 was \$174,532,000. The aggregate market value of the voting stock held by non-affiliates of the registrant based on the average bid and asked prices of February 10, 2009 was \$111,084,000.

Indicate number of shares outstanding of each of the registered classes of Common Stock at March 1, 2010: 24,211,967 shares of Common Stock, \$0.01 par value.

Documents incorporated by reference:

Certain portions of the Proxy Statement for the annual meeting of stockholders to be held in 2010 are incorporated by reference in Parts II, III, and IV hereof.

TABLE OF CONTENTS

	<u>Page</u>
 <u>PART I</u>	
<u>Item 1. Business</u>	1
<u>Item 1A. Risk Factors</u>	7
<u>Item 1B. Unresolved Staff Comments</u>	8
<u>Item 2. Properties</u>	9
<u>Item 3. Legal Proceedings</u>	9
<u>Item 4. Submission of Matters to a Vote of Security Holders</u>	9
 <u>PART II</u>	
<u>Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchase of Equity Securities</u>	9
<u>Item 6. Selected Financial Data</u>	11
<u>Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations</u>	12
<u>Item 7A. Quantitative and Qualitative Disclosures about Market Risk</u>	20
<u>Item 8. Financial Statements and Supplementary Data</u>	21
<u>Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure</u>	48
<u>Item 9A. Controls and Procedures</u>	48
<u>Item 9B. Other Information</u>	48
 <u>PART III</u>	
<u>Item 10. Directors, Executive Officers and Corporate Governance</u>	49
<u>Item 11. Executive Compensation</u>	50
<u>Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters</u>	50
<u>Item 13. Certain Relationships and Related Transactions, and Director Independence</u>	50
<u>Item 14. Principal Accountant Fees and Services</u>	50
 <u>PART IV</u>	
<u>Item 15. Exhibits and Financial Statement Schedules</u>	51
<u>Signatures and Certifications</u>	55

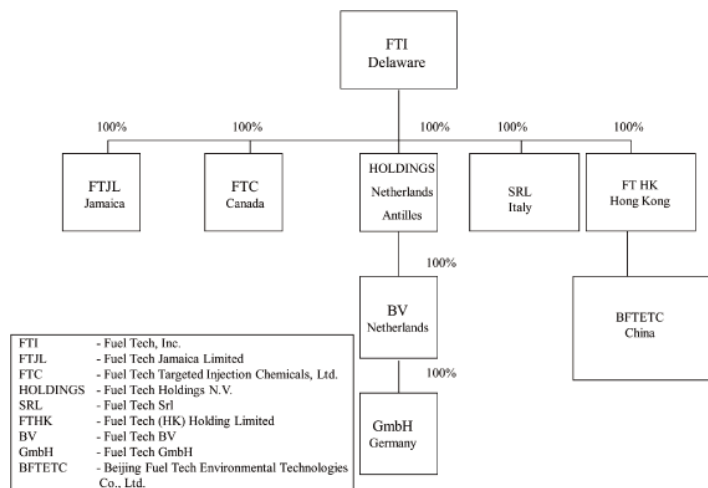
[Table of Contents](#)

TABLE OF DEFINED TERMS

Term	Definition
ABC	American Bailey Corporation
AIJ	Ammonia Injection Grid
ASCR™	A trademark used to describe Fuel Tech's combination of SNCR and SCR
CAAA	Clean Air Act Amendments of 1990
CAIR	Clean Air Interstate Rule
CASCADE™	A trademark used to describe Fuel Tech's combination of SNCR and SCR
CAVR	Clean Air Visibility Rule
CFD	Computational Fluid Dynamics
Common Shares	Shares of the Common Stock of Fuel Tech
Common Stock	Common Stock of Fuel Tech
EPA	The U.S. Environmental Protection Agency
FGC	Flue Gas Conditioning
FUEL CHEM®	A trademark used to describe Fuel Tech's fuel and flue gas treatment processes, including its TIFI® Targeted In-Furnace Injection™ technology to control slagging, fouling, corrosion and a variety of sulfur trioxide-related issues
GSG™	Graduated Straightening Grid
HERT™ High Energy Reagent Technology™	A trademark used to describe a Fuel Tech SNCR process
Loan Notes	Nil-coupon, non-redeemable convertible unsecured loan notes of Fuel Tech
NOx	Oxides of nitrogen
NOxOUT®	A trademark used to describe Fuel Tech's SNCR process for the reduction of NOx.
NOxOUT-SCR®	A trademark used to describe Fuel Tech's direct injection of urea as a catalyst reagent.
SCR	Selective Catalytic Reduction
SIP Call	State Implementation Plan Regulation
SNCR	Selective Non-Catalytic Reduction
TCI® Targeted Corrosion Inhibition™	A FUEL CHEM program designed for high-temperature slag and corrosion control, principally in waste-to-energy boilers
TIFI® Targeted In-Furnace Injection™	A proprietary technology that enables the precise injection of a chemical reagent into a boiler or furnace as part of a FUEL CHEM program
ULTRA™	A trademark used to describe Fuel Tech's process for generating ammonia for use as SCR reagent

[Table of Contents](#)**Fuel Tech, Inc. and Subsidiaries**

December 31, 2009



[Table of Contents](#)**PART I****Forward-Looking Statements**

This Annual Report on Form 10-K contains “forward-looking statements,” as defined in Section 21E of the Securities Exchange Act of 1934, as amended, are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 and reflect our current expectations regarding our future growth, results of operations, cash flows, performance and business prospects, and opportunities, as well as assumptions made by, and information currently available to, our management. We have tried to identify forward-looking statements by using words such as “anticipate,” “believe,” “plan,” “expect,” “intend,” “will,” and similar expressions, but these words are not the exclusive means of identifying forward-looking statements. These statements are based on information currently available to us and are subject to various risks, uncertainties, and other factors, including, but not limited to, those discussed herein under the caption “Risk Factors” that could cause our actual growth, results of operations, financial condition, cash flows, performance and business prospects and opportunities to differ materially from those expressed in, or implied by, these statements. Except as expressly required by the federal securities laws, we undertake no obligation to update such factors or to publicly announce the results of any of the forward-looking statements contained herein to reflect future events, developments, or changed circumstances or for any other reason. Investors are cautioned that all forward-looking statements involve risks and uncertainties, including those detailed in Fuel Tech’s filings with the Securities and Exchange Commission. See “Risk Factors” in Item 1A.

ITEM 1 - BUSINESS

As used in this Annual Report on Form 10-K, the terms “we,” “us,” “our,” “the Company,” and “Fuel Tech” refer to Fuel Tech, Inc. and our wholly-owned subsidiaries.

Fuel Tech

Fuel Tech, Inc. (Fuel Tech) is a fully integrated company that uses a suite of advanced technologies to provide boiler optimization, efficiency improvement and air pollution reduction and control solutions to utility and industrial customers worldwide. Originally incorporated in 1987 under the laws of the Netherlands Antilles as Fuel-Tech N.V., Fuel Tech became domesticated in the United States on September 30, 2006, and continues as a Delaware corporation with its corporate headquarters at 27601 Bella Vista Parkway, Warrenville, Illinois, 60555-1617. Fuel Tech maintains an Internet website at www.ftek.com. Our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to those reports filed or furnished pursuant to Section 13(a) of the Securities Exchange Act of 1934 are made available through our website as soon as reasonably practical after we electronically file or furnish the reports to the Securities and Exchange Commission. Also available on the Corporation’s website are the Company’s Corporate Governance Guidelines and Code of Ethics and Business Conduct, as well as the charters of the audit, compensation and nominating committees of the Board of Directors. All of these documents are available in print without charge to stockholders who request them. Information on our website is not incorporated into this report.

Fuel Tech’s special focus is the worldwide marketing of its nitrogen oxide (NOx) reduction and FUEL CHEM® processes. The Air Pollution Control (APC) technology segment reduces NOx emissions in flue gas from boilers, incinerators, furnaces and other stationary combustion sources by utilizing combustion optimization techniques and Low NOx and Ultra Low NOx Burners; NOxOUT® and HERT™ High Energy Reagent Technology™ SNCR systems; systems that incorporate CASCADE™, ULTRA™ and NOxOUT-SCR® processes; and Ammonia Injection Grid (AIG) and the Graduated Straightening Grid (GSG™). The FUEL CHEM technology segment improves the efficiency, reliability and environmental status of combustion units by controlling slagging, fouling and corrosion, as well as the formation of sulfur trioxide, ammonium bisulfate, particulate matter (PM2.5), carbon dioxide, NOx and unburned carbon in fly ash through the addition of chemicals into the fuel or via TIFI® Targeted In-Furnace Injection™ programs. Fuel Tech has other technologies, both commercially available and in the development stage, all of which are related to APC and FUEL CHEM processes or are similar in their technological base. Fuel Tech’s business is materially dependent on the continued existence and enforcement of worldwide air quality regulations.

American Bailey Corporation

Douglas G. Bailey, Chairman and Director of Fuel Tech, and Ralph E. Bailey, Director and Chairman Emeritus of Fuel Tech, are stockholders of American Bailey Corporation (ABC), which is a related party. Please refer to Note 10 to the consolidated financial statements in this document for information about transactions between Fuel Tech and ABC. Additionally, see the more detailed information relating to this subject under the caption “Certain Relationships and Related Transactions” in Fuel Tech’s Proxy Statement, to be distributed in connection with Fuel Tech’s 2010 Annual Meeting of Stockholders, which information is incorporated by reference.

Air Pollution Control*Regulations and Markets*

The U.S. air pollution control market is currently the primary driver in Fuel Tech’s NOx reduction technology segment. This market is dependent on air pollution regulations and their continued enforcement. These regulations are based on the Clean Air Act Amendments of 1990 (the “CAAA”), which require reductions in NOx emissions on varying timetables with respect to

[Table of Contents](#)

various sources of emissions. Under the State Implementation Plan (SIP) Call, a regulation promulgated under the Amendments (discussed further below), over 1,000 utility and large industrial boilers in 19 states were required to achieve NOx reduction targets by May 31, 2004.

In 1994, governors of 11 Northeastern states, known collectively as the Ozone Transport Region, signed a Memorandum of Understanding requiring utilities to reduce their NOx emissions by 55% to 65% from 1990 levels by May 1999. In 1998, the Environmental Protection Agency (EPA) announced more stringent regulations. The Ozone Transport SIP Call regulation, designed to mitigate the effects of wind-aided ozone transported from the Midwestern and Southeastern U.S. into the Northeastern non-attainment areas, required, following the litigation described below, 19 states to make even deeper aggregate reductions of 85% from 1990 levels by May 31, 2004. Over 1,000 utility and large industrial boilers are affected by these mandates. Additionally, most other states with non-attainment areas were also required to meet ambient air quality standards for ozone by 2007.

Although the SIP Call was the subject of litigation, an appellate court of the D.C. Circuit upheld the validity of this regulation. This court's ruling was later affirmed by the U.S. Supreme Court.

In February 2001, the U.S. Supreme Court, in a unanimous decision, upheld EPA's authority to revise the National Ambient Air Quality Standard (NAAQS) for ozone to 0.080 parts per million averaged through an eight-hour period from the current 0.120 parts per million for a one-hour period. This more stringent standard provided clarity and impetus for air pollution control efforts well beyond the then current ozone attainment requirement of 2007. In keeping with this trend, the Supreme Court, only days later, denied industry's attempt to stay the SIP Call, effectively exhausting all means of appeal. The ozone NAAQS is currently 0.075 parts per million averaged over an eight-hour period, and EPA is proposing to reduce the Standard to 0.06 or 0.07 parts per million for the most severe non-attainment areas by 2013.

On December 23, 2003, the EPA proposed a new regulation affecting the SIP Call states by specifying more expansive NOx reduction. This rule, under the name Clean Air Interstate Rule (CAIR), was issued by the EPA on March 10, 2005. Commencing in 2009, CAIR specifies that additional annual NOx reduction requirements be extended to most SIP-affected units in 28 eastern states, while permitting a cap and trade format similar to the SIP Call. The Company expects an additional 1,300 electric generating units using coal and other fuels to be affected by this rule. In an action related to CAIR, on June 15, 2005, the EPA issued the Clean Air Visibility Rule (CAVR), which is a nationwide initiative to improve federally preserved areas through reduction of NOx and other pollutants. CAVR expands the NOx reduction market to Western states unaffected by CAIR or the SIP Call. Compliance begins in 2013 and CAVR will potentially affect an additional 230 western coal-fired electric-generating units. In addition, CAVR, along with the EPA rule for revised eight-hour ozone attainment, have the potential to impact thousands of boilers and industrial units in multiple industries nationwide for units burning coal and other fuels starting in 2013.

On July 11, 2008, the U.S. District Court of Appeals for the District of Columbia Circuit vacated the CAIR regulations under the CAAA under the premise that the EPA exceeded its authority when the rule was created in 2005. The court found "more than several fatal flaws in the rule" but neither took issue with the concept that NOx emissions are to be controlled nor over the limits and thresholds established by CAIR. In vacating the rule in its entirety, the court remanded to EPA to promulgate a rule consistent with the court's opinion. On September 24, 2008, the EPA filed a petition for the case to be reviewed by the full Court of Appeals, not just the three judge panel that issued the vacatur ruling in July 2008. On October 22, 2008, the EPA was granted a 15-day period to present a basis as to why the court should reconsider its decision. On December 23, 2008, the D.C. Circuit granted the EPA's petition only to the extent that it remanded the case without vacatur for EPA to conduct further proceedings consistent with the court's prior opinion. In summary, the court stated that "...allowing CAIR to remain in effect until it is replaced by a rule consistent with our opinion would at least temporarily preserve the environmental values covered by CAIR." The court did not impose a particular schedule by which the EPA must alter CAIR, however a revised rule is expected to be published by the EPA in 2010 and taking effect in 2011. CAIR requires the affected states to be in year-round NOx emission compliance beginning January 1, 2009. While we cannot predict the ultimate outcome of a revised CAIR or new multi-pollutant legislation under consideration by Congress, any unfavorable outcome could have a material adverse effect on our business, results of operations, cash flows, and financial position. However, the primary driver of CAIR, the Federal Clean Air Act, including the associated National Ambient Air Quality Standards, is in effect and states must comply with this law.

Fuel Tech also sells NOx control systems outside the United States, specifically in Europe and in the People's Republic of China (China). NOxOUT systems have long been sold in the traditional markets of Western Europe, but interest is growing in newer markets like Eastern Europe as well as Israel for complete NOx reduction programs on both new and existing boilers. Under EU Directives, certain waste incinerators and cement plants must come into compliance with specified NOx reduction targets by the end of 2009, while certain power plants must be in compliance by 2016.

China also represents attractive opportunities for Fuel Tech as the government has set pollution control and energy conservation and efficiency improvements as top priorities. Fuel Tech has viable technologies to help achieve these objectives. China has taken initial steps to reduce NOx emissions on new electric utility units (principally Low NOx Burners), and on-going research and demonstration projects are generating cost performance data for use in tightening standards in the near future, both for new and retrofit units. China's dominant reliance on coal as an energy resource is not expected to change in the foreseeable future. Clean air has been and will continue to be a pressing issue, especially with China's robust economic growth, expected growth in power production (4%-5% average annual increase through 2020), and an increasingly expanded role in international events and organizations. China hosted the 2008 Beijing Summer Olympics and will host the 2010 Shanghai World Expo and the Asian Games in Guangdong. China plans to address in a significant way the pollution control for the existing fleet of fossil plants in the Twelfth Five-Year Plan that takes effect in 2011.

[Table of Contents](#)

The “*Fossil-Fired Power Plant’s NOx Emission Prevention and Control Policy*” (the “Policy”) issued by the Ministry of Environmental Protection on January 27, 2010 set the directions for future choices of technologies in flue gas NOx emission control. It is expected that detailed regulations which will implement the Policy will be announced later by appropriate government agencies. The Policy applies to all coal-fired power plants and co-generation units where the focus is placed on 200 MW or larger, as well as the units in the designated “Focus Regions” (areas around Beijing, Shanghai, and Guangdong). By the Policy, all new, rebuilt or plants that have undergone expansion should consider Low-NOx Combustion Technologies (such as Low-NOx Burners and Over-Fire Air systems) as the priority choice. On operating units, if the NOx emission levels still do not meet the emission standard, then the unit should install flue gas de-NOx technology. Major flue gas de-NOx technologies called out in the Policy include Selective Catalytic Reduction (SCR), Selective Non-Catalytic Reduction (SNCR), and Combined SCR-SNCR systems. For systems which require ammonia as a reducing agent for SCR, SNCR-SCR and SNCR, there are special policy guidelines depending on the unit location. For all units within the special Focus Regions, the preferred reducing agent is urea.

Fuel Tech has established a significant market position in NOx control resulting from the initial national demonstration projects utilizing CASCADE technology at Jiangsu Kanshan (two new 600 megawatt units), NOxOUT Selective Non-Catalytic Reduction (SNCR) technology at Jiangyin Ligang (four new 600 megawatt units) and Inner Mongolia (two new 600 megawatt units), and ULTRA technology on two retrofit projects in Beijing. These projects have established Fuel Tech NOx control technologies as being acceptable to use in reducing NOx emissions and have resulted in additional contracts in China. With the variety for future choices of technologies for NOx emission control that are in the Twelfth Five-Year Plan which begins in January 1, 2011, we believe the China market holds significant opportunities for Fuel Tech.

The key market dynamic for this product line is the continued use of coal as the principal fuel source for global electricity production. Coal accounts for approximately 50% of all U.S. electricity generation. Coal’s share of global electricity generation is forecast to be approximately 45% by 2030. Major coal consumers include China, the United States and India.

Products

Fuel Tech’s NOx reduction technologies are installed worldwide on over 550 combustion units, including utility, industrial and municipal solid waste applications. Products include customized NOx control systems and patented urea-to-ammonia conversion technology, which can provide safe reagent for use in Selective Catalytic Reduction (SCR) systems.

- Low NOx Burners and Ultra Low NOx Burners are available for coal-, oil-, and gas-fired industrial and utility units. Each system application is specifically designed to maximize NOx reduction. Computational Fluid Dynamics combustion modeling is used to validate the design prior to fabrication of equipment. NOx reductions can range from 40%-60% depending on the fuel type. Over-Fire Air systems stage combustion for enhanced NOx reduction. Additional NOx reductions, beyond Low NOx Burners, of 35%-50%, are possible on different boiler configurations on a range of fuel types. Combined overall reductions range from 50-70%, with overall capital costs range from \$10 — \$20/kW and levelized total costs ranging from \$300 — \$1,500/ton of NOx removed, depending on the scope.
- Fuel Tech’s NOxOUT and HERT SNCR processes use non-hazardous urea as the reagent rather than ammonia. Both the NOxOUT and HERT processes on their own are capable of reducing NOx by up to 25% — 50% for utilities and by potentially significantly greater amounts for industrial units in many types of plants with capital costs ranging from \$5 — \$20/kW for utility boilers and with total annualized operating costs ranging from \$1,000 — \$2,000/ton of NOx removed.
- Fuel Tech’s Advanced Selective Catalytic Reduction (ASCRTM) systems include LNB, OFA, and SNCR components, along with a downsized SCR catalyst, Ammonia Injection Grid (AIG), and Graduated Straightening Grid (GSGTM) systems to provide up to 90% NOx reduction at significantly lower capital and operating costs than conventional SCR systems while providing greater operational flexibility to plant operators. The capital costs for ASCR systems can range from \$30 — \$150/kW depending on boiler size and configuration, which is significantly less than that of conventional SCRs, which can cost \$300/kW or more, while operating costs are competitive with those experienced by SCR systems. The CASCADETM and NOxOUT-SCR® processes are basic types of ASCR systems which use just SNCR and SCR catalyst components. The CASCADE systems can achieve 60-70% NOx reduction, with capital costs being a portion of the ASCR values defined above. Fuel Tech’s NOxOUT-SCR process utilizes urea as the SCR catalyst reagent to achieve NOx reductions of up to 85% from smaller stationary combustion sources with capital and operating costs competitive with equivalently sized, standard SCR systems.
- Fuel Tech’s ULTRATM process is designed to convert urea to ammonia safely and economically for use as a reagent in the SCR process for NOx reduction. Recent local objections in the ammonia permitting process have raised concerns regarding the safety of ammonia shipment and storage in quantities sufficient to supply SCR. In addition, the Department of Homeland Security has characterized anhydrous ammonia as a Toxic Inhalation Hazard (TIH) commodity. This is contributing to new restrictions by rail carriers on the movement of anhydrous ammonia and to an escalation in associated rail transport and insurance rates. Overseas, new coal-fired power plants incorporating SCR systems are expected to be constructed at a rapid rate in China, and Fuel Tech’s ULTRA process is believed to be a market leader for the safe conversion of urea to ammonia just prior to injection into the flue gas duct, which is particularly important near densely populated cities, major waterways, harbors or islands, or where the transport of anhydrous or aqueous ammonia is a safety concern.

Table of Contents

- Under an exclusive licensing agreement with FGC Corporation, Fuel Tech sells flue gas conditioning systems incorporating FGC Corporation technology for utility applications in all geographies outside the United States and Canada. Flue gas conditioning systems improve the efficiency of particulate collectors, including electrostatic precipitators (ESPs) and fabric filters. These conditioning systems represent a far lower capital cost approach to improving ash particulate capture versus the alternative of installing larger ESPs or fabric filter technology to meet opacity levels.
- Fuel Tech now provides process design optimization, performance testing and improvement, and catalyst selection services for SCR systems on coal-fired boilers. In addition, other related services, including start-ups, maintenance support and general consulting services for SCR systems, as well as ammonia injection grid design and tuning, to help optimize catalyst performance and catalyst management services to help optimize catalyst life, are now offered to customers around the world. Fuel Tech also specializes in both physical experimental models, which involve construction of scale models through which fluids are tested, and computational fluid dynamics models, which simulate fluid flow by generating a virtual replication of real-world geometry and operating inputs. Fuel Tech designs flow corrective devices, such as turning vanes, ash screens, static mixers and our patent pending Graduated Straightening Grid GSGTM. Fuel Tech's models help clients optimize performance in flow critical equipment, such as selective catalytic reactors in SCR systems, where the effectiveness and longevity of catalysts are of utmost concern. The Company's modeling capabilities are also applied to other power plant systems where proper flow distribution and mixing are important for performance, such as flue gas desulphurization scrubbers, electrostatic precipitators, air heaters, exhaust stacks and carbon injection systems for mercury removal.

Sales of the NOx reduction technologies were \$34.7 million, \$44.4 million and \$47.8 million for the years ended December 31, 2009, 2008 and 2007, respectively.

NOx Reduction Competition

Competition with Fuel Tech's NOx reduction suite of products may be expected from companies supplying urea SNCR systems, combustion modification products, SCR systems and ammonia SNCR systems. In addition, Fuel Tech experiences competition in the urea-to-ammonia conversion market.

Combustion modifications, including Low NOx Burners and Over-Fire Air systems, can be fitted to most types of boilers with cost and effectiveness varying with specific boilers. Combustion modifications may yield up to 20% — 60% NOx reduction economically with capital costs ranging from \$10 — \$20/kW and levelized total costs ranging from \$300 — \$1,500/ton of NOx removed. The modifications are designed to reduce the formation of NOx and are typically the first NOx reduction efforts employed. Such companies as Alstom, Foster Wheeler Corporation, The Babcock & Wilcox Company, Combustion Components Associates, Inc., Siemens, and Babcock Power, Inc. are active competitors in the Low-NOx burner business. On January 5, 2009, Fuel Tech acquired substantially all of the assets of Advanced Combustion Technology, Inc., a company that had been engaged in the Low NOx burner business.

Once NOx is formed, then the SCR process is an effective and proven method of control for removal of NOx up to 90%. SCR systems have a high capital cost of \$300+/kW on retrofit coal applications. Such companies as Alstom, The Babcock & Wilcox Company, Hitachi, Foster Wheeler Corporation, Peerless Manufacturing Company, and Babcock Power, Inc., are active SCR system providers, or providers of the catalyst itself.

The use of ammonia as the reagent for the SNCR process can reduce NOx by 30% — 70% on incinerators, but has limited applicability in the utility industry. Ammonia system capital costs range from \$5 - \$20/kW, with annualized operating costs ranging from \$1,000 — \$3,000/ton of NOx removed. These systems require the use of either anhydrous or aqueous ammonia, both of which are hazardous substances.

Combustion Components Associates, Inc. is a licensed implementer of our NOxOUT SNCR systems, and thus, may compete with us in the market for such technology.

In addition to or in lieu of using the foregoing processes, certain customers may elect to close or de-rate plants, purchase electricity from third-party sources, switch from higher to lower NOx-emitting fuels or purchase NOx emission allowances.

Lastly, with respect to urea-to-ammonia conversion technologies, a competitive approach to Fuel Tech's controlled urea decomposition system is available from Wahloco, Inc., which manufactures a system that hydrolyzes urea under high temperature and pressure.

APC BACKLOG

Consolidated APC backlog at December 31, 2009 was \$22.0 million versus backlog at December 31, 2008 of approximately \$9.0 million. Substantially all of the backlog as of December 31, 2009 should be recognized as revenue in fiscal 2010, although the timing of such revenue recognition in 2010 is subject to the timing of the expenses incurred on existing projects.

[Table of Contents](#)**FUEL CHEM***Product and Markets*

The FUEL CHEM technology segment revolves around the unique application of specialty chemicals to improve the efficiency, reliability and environmental status of plants operating in the electric utility, industrial, pulp and paper, waste-to-energy, university and district heating markets. FUEL CHEM programs are currently in place on over 95 combustion units, treating a wide variety of solid and liquid fuels, including coal, heavy oil, biomass and municipal waste.

Central to the FUEL CHEM approach is the introduction of chemical reagents, such as magnesium hydroxide, to combustion units via in-body fuel application (pre-combustion) or via direct injection (post-combustion) utilizing Fuel Tech's proprietary TIFI technology. By attacking performance-hindering problems, such as slagging, fouling and corrosion, as well as the formation of sulfur trioxide (SO₃), ammonium bisulfate (ABS), particulate matter (PM_{2.5}), carbon dioxide (CO₂), NO_x and unburned carbon in fly ash, the Company's programs offer numerous operational, financial and environmental benefits to owners of boilers, furnaces and other combustion units.

The key market dynamic for this product line is the continued use of coal as the principal fuel source for global electricity production. Coal accounts for approximately 50% of all U.S. electricity generation. Coal's share of global electricity generation is forecast to be approximately 45% by 2030. Major coal consumers include the United States, China and India.

The principal markets for this product line are electric power plants burning coals with slag-forming constituents such as sodium, iron and high levels of sulfur. Sodium is typically found in the Powder River Basin (PRB) coals of Wyoming and Montana. Iron is typically found in coals produced in the Illinois Basin (IB) region. High sulfur content is typical of IB coals and certain Appalachian coals. High sulfur content can give rise to unacceptable levels of SO₃ formation in plants with SCR systems and flue gas desulphurization units (scrubbers).

The combination of slagging coals and SO₃-related issues, such as "blue plume" formation, air pre-heater fouling and corrosion, SCR fouling and the proclivity to suppress certain mercury removal processes, represents attractive market potential for Fuel Tech.

Internationally, market opportunities exist in Europe and in the Asia-Pacific region, particularly China and India, where high-slagging coals are fueling a large and growing fleet of power plants. To address the Chinese market, where particular emphasis is being placed on energy efficiency, Fuel Tech extended its exclusive teaming agreement with ITOCHU Hong Kong Ltd., a subsidiary of ITOCHU Corporation, through February 28, 2010. The exclusivity portion of this agreement expired on this date while the relationship with Itochu continues and is undergoing certain modifications to better address the Chinese FUEL CHEM market. Working with Itochu, the first FUEL CHEM demonstration program in China was announced in January 2008, a second demonstration program was announced in October 2008 and a third in May 2009. In addition, Fuel Tech was awarded its first FUEL CHEM demonstration program in India in January 2008. TIFI initiatives aimed at energy efficiency improvements resulted from maintaining better cleanliness on heat transfer equipment in particularly coal, oil, municipal solids waste, and biomass fired combustion facilities. FUEL CHEM benefits are characterized by generating more power and steam using the same fuel, capability of burning more lower grade fuels, reduction of environmental toxic release, reduction of operation and maintenance cost, safe and more stable operations, as well as in reduced CO₂ emissions, which potentially can be monetized under provisions of the Kyoto Protocol.

A potentially large fuel treatment market exists in Mexico, where high-sulfur, low-grade fuel oil containing vanadium and nickel is the primary source for electricity production. The presence of these metallic constituents promotes slag build-up, and the fuel properties can result in acid gas and particulate emissions in local combustion units. Fuel Tech has successfully treated such units with its TIFI technology. To capitalize on this market opportunity, the Company signed a five-year license implementation agreement with Energy Marine Services, S.A. de C.V. (EMS), a private Mexican corporation, to implement our TIFI program for utility and end user customers in Mexico. In 2009, our TIFI program has been in continuous use on three boilers at CFE's power plant. In addition, EMS's partner company was awarded a project to install TIFI equipment on three boilers at a different power plant also owned by CFE. Our TIFI program on all three boilers is expected to be operational in 2010. CFE is Mexico's largest state power company with greater than 50 GW of installed capacity.

Sales of the FUEL CHEM products were \$36.7 million, \$36.7 million and \$32.5 million for the years ended December 31, 2009, 2008 and 2007, respectively.

Competition

Competition for Fuel Tech's FUEL CHEM product line includes chemicals sold by specialty chemical and combustion engineering companies, such as GE Infrastructure, Ashland Inc., and Environmental Energy Services, Inc. No substantive competition currently exists for Fuel Tech's TIFI technology, which is designed primarily for slag control and SO₃ abatement, but there can be no assurance that such lack of substantive competition will continue.

[Table of Contents](#)**INTELLECTUAL PROPERTY**

The majority of Fuel Tech's products are protected by U.S. and non-U.S. patents. Fuel Tech owns 77 granted patents worldwide and has 10 patent applications pending in the United States and 45 pending in non-U.S. jurisdictions. These patents and applications cover some 31 inventions, 19 associated with the NOx reduction business, seven associated with the FUEL CHEM business and five associated with non-commercialized technologies. Our patents have expiration dates ranging from February 17, 2010 to February 16, 2026. The average remaining duration of our patents is approximately six and one-half years. Graduated Straightening Grid (GSG™) technology was added into Fuel Tech's inventions in 2008 through the acquisition of substantially all of the assets of FlowTack. GSG improves flow distribution and direction to potentially improve SCR and CASCADE performance, and minimize flow-related erosion, dust accumulation and heat transfer problems. These inventions represent significant enhancements of the application and performance of the technologies. As a result of the 2009 acquisition of substantially all of the assets of Advanced Combustion Technology, Inc., Fuel Tech added patented HERT SNCR technology and patent pending Ultra Low NOx Burner replacement system technology. Further, Fuel Tech believes that the protection provided by the numerous claims in the above referenced patents or patent applications is substantial, and affords Fuel Tech a significant competitive advantage in its business. Accordingly, any significant reduction in the protection afforded by these patents or any significant development in competing technologies could have a material adverse effect on Fuel Tech's business.

EMPLOYEES

At December 31, 2009, Fuel Tech had 168 employees, 141 in North America, 18 in China and 9 in Europe. Fuel Tech enjoys good relations with its employees and is not a party to any labor management agreement.

ACQUISITION

On January 5, 2009, Fuel Tech consummated its acquisition of substantially all of the assets of Advanced Combustion Technology, Inc. (ACT) pursuant to that certain Asset Purchase Agreement, dated December 5, 2008, among the Company, ACT, Peter D. Marx, Robert W. Pickering and Charles E. Trippel. Prior to closing, ACT, headquartered in Hooksett, New Hampshire, was a leading provider of nitrogen oxide (NOx) control systems, including Low NOx Burners and Over-Fire Air systems. The business formerly operated by ACT is part of the Company's Air Pollution Control reporting segment. In connection with the closing, Fuel Tech paid approximately \$23,000 in cash to ACT. In addition, ACT may receive certain performance-based contingent payments in the future.

[Table of Contents](#)**ITEM 1A - RISK FACTORS**

Investors in Fuel Tech should be mindful of the following risk factors relative to Fuel Tech's business.

(i) Lack of Diversification

Fuel Tech has two broad technology segments that provide advanced engineering solutions to meet the pollution control, efficiency improvement, and operational optimization needs of energy-related facilities worldwide. They are as follows:

- The Air Pollution Control technology segment includes technologies to reduce NOx emissions in flue gas from boilers, incinerators, furnaces and other stationary combustion sources. These include Low- and Ultra-Low NOx Burners (LNB and ULNB), Over-Fire Air (OFA) systems, NOxOUT® and HERTM Selective Non-Catalytic Reduction (SNCR) systems, and Advanced Selective Catalytic Reduction (ASCRTM) systems. The ASCR system includes ULNB, OFA, and SNCR components, along with a downsized SCR catalyst, ammonia injection grid (AIG), and Graduated Straightening Grid GSGTM systems to provide high NOx reductions at significantly lower capital and operating costs than conventional SCR systems. The CASCADETM and NOxOUT-SCR® processes are basic types of ASCR systems, using just SNCR and SCR catalyst components. ULTRA™ technology creates ammonia at a plant site using safe urea for use with any SCR application. Flue gas conditioning systems are chemical injection systems offered in markets outside the U.S. and Canada to enhance electrostatic precipitator and fabric filter performance in controlling particulate emissions.
- The FUEL CHEM® technology segment, which uses chemical processes in combination with advanced CFD and CKM boiler modeling, for the control of slagging, fouling, corrosion, opacity and other sulfur trioxide-related issues in furnaces and boilers through the addition of chemicals into the furnace using TIFI® Targeted In-Furnace Injection™ technology.

An adverse development in Fuel Tech's advanced engineering solution business as a result of competition, technological change, government regulation, or any other factor could have a significantly greater impact than if Fuel Tech maintained more diverse operations.

(ii) Competition

Competition in the Air Pollution Control market will come from competitors utilizing their own NOx reduction processes, including SNCR systems, Low NOx Burners, Over-Fire Air systems, flue gas recirculation, ammonia SNCR, SCR and, with respect to particular uses of urea not infringing Fuel Tech's patents, urea (see Item 1 "Intellectual Property"). Competition will also come from business practices such as the purchase rather than the generation of electricity, fuel switching, closure or de-rating of units, and sale or trade of pollution credits and emission allowances. Utilization by customers of such processes or business practices or combinations thereof may adversely affect Fuel Tech's pricing and participation in the NOx control market if customers elect to comply with regulations by methods other than the purchase of Fuel Tech's suite of Air Pollution Control products. See Item 1 "Products" and "NOx Reduction Competition" in the *Air Pollution Control* segment overview.

Competition in the FUEL CHEM markets includes chemicals sold by specialty chemical and combustion engineering companies, such as GE Infrastructure, Ashland Inc. and Environmental Energy Services, Inc. As noted previously, no significant competition currently exists for Fuel Tech's patented TIFI technology, which is designed primarily for slag control and SO₃ abatement. However, there can be no assurance that such lack of significant competition will continue.

(iii) Dependence on and Change in Air Pollution Control Regulations and Enforcement

Fuel Tech's business is significantly impacted by and dependent upon the regulatory environment surrounding the electricity generation market. Our business will be adversely impacted to the extent that regulations are repealed or amended to significantly reduce the level of required NOx reduction, or to the extent that regulatory authorities delay or otherwise minimize enforcement of existing laws. Additionally, long-term changes in environmental regulation that threaten or preclude the use of coal or other fossil fuels as a primary fuel source for electricity production, based on the theory that gases emitted therefrom impact climate change through a greenhouse effect, and result in the reduction or closure of a significant number of fossil fuel-fired power plants, may adversely affect the Company's business, financial condition and results of operations. See Item 1 above under the caption "*Regulations and Markets*" in the *Air Pollution Control* segment overview.

(iv) Protection of Patents and Proprietary Rights

Fuel Tech holds licenses to or owns a number of patents for our products and processes. In addition, we also have numerous patents pending. There can be no assurance that pending patent applications will be granted or that outstanding patents will not be challenged or circumvented by competitors. Certain critical technology relating to our products is protected by trade secret laws and by confidentiality and licensing agreements. There can be no assurance that such protection will prove adequate or that we will have adequate remedies against contractual counterparties for disclosure of our trade secrets or violations of Fuel Tech's intellectual property rights. See Item 1 "Intellectual Property."

[Table of Contents](#)

(v) Foreign Operations

In 2007, we expanded our operations into China by establishing a wholly-owned subsidiary in Beijing. The Asia-Pacific region, particularly China and India, offers significant market opportunities for Fuel Tech as these nations look to establish regulatory policies for improving their environment and utilizing fossil fuels, especially coal, efficiently and effectively. The future business opportunities in these markets are dependent on the continued implementation of regulatory policies that will benefit our technologies, the acceptance of Fuel Tech's engineering solutions in such markets, and the ability of potential customers to utilize Fuel Tech's technologies on a cost-effective basis.

(vi) Product Pricing and Operating Results

The onset of significant competition for either of the technology segments might have an adverse impact on product pricing and a resulting adverse impact on realized gross margins and operating profitability.

(vii) Raw Material Supply and Pricing

The FUEL CHEM Technology segment is dependent upon a supply of magnesium hydroxide. Any adverse change in the availability of this chemical will likely have an adverse impact on ongoing operation of our FUEL CHEM programs. On March 4, 2009, we entered into a Restated Product Supply Agreement ("PSA") with Martin Marietta Magnesia Specialties, LLC (MMMS) in order to assure the continuance of a stable supply from MMMS of magnesium hydroxide products for our requirements in the United States and Canada until December 31, 2013, the date of the expiration of the PSA. Magnesium hydroxide products are a significant component of the FUEL CHEM programs. Pursuant to the PSA, MMMS supplies us with magnesium hydroxide products manufactured pursuant to our specifications and we have agreed to purchase from MMMS, and MMMS has agreed to supply, 100% of our requirements for such magnesium hydroxide products for our customers who purchase such products for delivery in the United States and Canada. There can be no assurance that Fuel Tech will be able to obtain a stable source of magnesium hydroxide in markets outside the United States.

(viii) Customer Access to Capital Funds

Uncertainty about current economic conditions in the United States and globally poses risk that Fuel Tech's customers may postpone spending for capital improvement projects in response to tighter credit markets, negative financial news and/or decline in demand for electricity generated by combustion units, all of which could have a material negative effect on demand for the Fuel Tech's products and services.

(ix) Customer Concentration

A small number of customers have historically accounted for a material portion of Fuel Tech's revenues (see note 12 – Business Segment, Geographic and Quarterly Financial Data). There can be no assurance that Fuel Tech's current customers will continue to place orders, that orders by existing customers will continue at the levels of previous periods, or that Fuel Tech will be able to obtain orders from new customers. The loss of one or more of our customers could have a material adverse effect on our sales and operating results.

(x) Domestic Credit Facility

Fuel Tech is party to a \$25 million revolving credit agreement with JPMorgan Chase Bank, N.A. As of December 31, 2009, there were no outstanding borrowings on this facility and Fuel Tech was in compliance with all debt covenants contained in the agreement. Nevertheless, in the event of any default on the part of Fuel Tech under this agreement, the lender is entitled to accelerate payment of any amounts outstanding and may, under certain circumstances, cancel the facility. If the Company were unable to obtain a waiver for a breach of covenant and the lender accelerated the payment of any outstanding amounts, such acceleration may cause the Company's cash position to significantly deteriorate or, if cash on hand were insufficient to satisfy the payment due, may require the Company to obtain alternate financing. See "Liquidity and Sources of Capital" under Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations."

ITEM 1B - UNRESOLVED STAFF COMMENTS

None

[Table of Contents](#)**ITEM 2 - PROPERTIES**

Fuel Tech and its subsidiaries operate from leased office facilities in Stamford, Connecticut; Durham, North Carolina; Gallarate, Italy and Beijing, China. Fuel Tech does not segregate any of its leased facilities by operating business segment. The terms of the three material agreements are as follows:

- The Stamford, Connecticut building lease term, for approximately 6,000 square feet, runs from February 1, 2010 to January 31, 2020. The facility houses certain administrative functions such as Investor Relations and certain APC sales functions. This lease replaces the prior facility lease for a separate location in Stamford which expired on January 31, 2010, which Fuel Tech did not renew. .
- The Beijing, China building lease term, for approximately 4,000 square feet, runs from September 1, 2009 to August 31, 2010. This facility serves as the operating headquarters for our Beijing Fuel Tech operation. Fuel Tech has the option to extend the lease term at a market rate to be agreed upon between Fuel Tech and the lessor.
- The Durham, North Carolina building lease term, for approximately 16,000 square feet, runs from November 1, 2005 to April 30, 2014. This facility houses the former Tackticks and FlowTack operations. Fuel Tech has no option to extend the lease.

In addition to the above, on November 30, 2007, Fuel Tech purchased an office building in Warrenville, Illinois, which has served as our corporate headquarters since June 23, 2008. This facility, with approximately 40,000 square feet of office space, was purchased for approximately \$6,000,000 and subsequently built out and furnished for an additional cost of approximately \$5,500,000. This facility will meet our growth requirements for the foreseeable future. Our prior headquarters, an 18,000 square foot location in Batavia, Illinois, was under an operating lease until May 31, 2009. We did not renew this lease.

ITEM 3 - LEGAL PROCEEDINGS

We are from time to time involved in litigation incidental to our business. We are not currently involved in any litigation in which we believe an adverse outcome would have a material effect on our business, financial conditions, results of operations, or prospects.

ITEM 4 - SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

During the fourth quarter of 2009, no matters were submitted to a vote of security holders.

PART II**ITEM 5 - MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASE OF EQUITY SECURITIES****Market**

Fuel Tech's Common Shares have been traded since September 1993 on The NASDAQ Stock Market, Inc. The trading symbol is FTEK.

Prices

The table below sets forth the high and low sales prices during each calendar quarter since January 2008.

2009	High	Low
Fourth Quarter	\$12.65	\$7.51
Third Quarter	12.55	7.90
Second Quarter	14.15	9.28
First Quarter	12.23	7.01
2008	High	Low
Fourth Quarter	\$18.95	\$ 6.05
Third Quarter	24.76	14.52
Second Quarter	27.16	17.55
First Quarter	22.94	14.15

[Table of Contents](#)**Dividends**

Fuel Tech has never paid cash dividends on its common stock and has no current plan to do so in the foreseeable future. The declaration and payment of dividends on the Common Stock are subject to the discretion of the Company's Board of Directors. The decision of the Board of Directors to pay future dividends will depend on general business conditions, the effect of a dividend payment on our financial condition, and other factors the Board of Directors may consider relevant. The current policy of the Company's Board of Directors is to reinvest earnings in operations to promote future growth.

Share Repurchase Program

Fuel Tech purchased no equity securities during the quarter and year ended December 31, 2009.

Holders

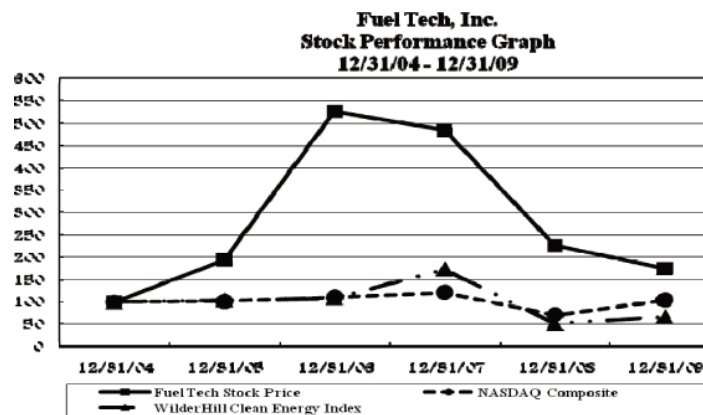
Based on information from the Company's Transfer Agent and from banks and brokers, the Company estimates that, as of February 22, 2010, there were approximately 19,800 beneficial holders and 254 registered stockholders of Fuel Tech's Common Shares.

Transfer Agent

The Transfer Agent and Registrar for the Common Shares is BNY Mellon Shareowner Services, 480 Washington Boulevard, Jersey City, New Jersey 07310-1900.

Performance Graph

The following line graph compares (i) Fuel Tech's total return to stockholders per share of Common Stock for the five years ended December 31, 2009 to that of (ii) the NASDAQ Composite index, and (iii) the WilderHill Clean Energy Index for the period December 31, 2004 through December 31, 2009.



[Table of Contents](#)**ITEM 6 - SELECTED FINANCIAL DATA**

Selected financial data are presented below as of the end of and for each of the fiscal years in the five-year period ended December 31, 2009. The selected financial data should be read in conjunction with the audited consolidated financial statements as of and for the year ended December 31, 2009, and "Management's Discussion and Analysis of Financial Condition and Results of Operations" included elsewhere in this report and the schedules thereto. As a result of the acquisitions of substantially all of the assets of ACT in the first quarter of 2009, and Tackticks, LLC and FlowTack, LLC in the fourth quarter of 2008, the Company's condensed consolidated results for the periods presented are not directly comparable. See Note 13 for pro forma results from business acquisitions.

CONSOLIDATED STATEMENT of OPERATIONS DATA

	For the years ended December 31				
	2009	2008	2007	2006	2005
(in thousands of dollars, except for share and per- share data)					
Revenues	\$ 71,397	\$ 81,074	\$ 80,297	\$ 75,115	\$ 52,928
Cost of sales	42,444	44,345	42,471	38,429	27,118
Selling, general and administrative and other costs and expenses	32,034	30,502	27,087	25,953	18,655
Operating (loss) income	(3,081)	6,227	10,739	10,733	7,155
Net (loss) income	(2,306)	3,360	7,243	6,826	7,588
Basic (loss) income per Common Share	\$ (0.10)	\$ 0.14	\$ 0.33	\$ 0.32	\$ 0.38
Diluted (loss) income per Common Share	\$ (0.10)	\$ 0.14	\$ 0.29	\$ 0.28	\$ 0.33
Weighted-average basic shares outstanding	24,148,000	23,608,000	22,280,000	21,491,000	20,043,000
Weighted-average diluted shares outstanding	24,148,000	24,590,000	24,720,000	24,187,000	23,066,000

CONSOLIDATED BALANCE SHEET DATA

	December 31				
	2009	2008	2007	2006	2005
(in thousands of dollars)					
Working capital	\$ 30,578	\$ 43,956	\$ 45,143	\$ 38,715	\$ 19,590
Total assets	92,262	88,631	87,214	65,660	44,075
Long-term obligations	2,196	1,389	1,255	500	448
Total liabilities	14,040	15,056	23,975	18,005	14,939
Stockholders' equity (1)	78,222	73,575	63,239	47,655	29,136

Notes:

- (1) Stockholders' equity includes principal amount of nil coupon non-redeemable perpetual loan notes. See Note 6 to the consolidated financial statements.

[Table of Contents](#)**ITEM 7 - MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS****Background**

Fuel Tech, Inc. ("Fuel Tech") has two broad technology segments that provide advanced engineering solutions to meet the pollution control, efficiency improvement and operational optimization needs of energy-related facilities worldwide. They are as follows:

Air Pollution Control Technologies

The Air Pollution Control technology segment includes technologies to reduce NOx emissions in flue gas from boilers, incinerators, furnaces and other stationary combustion sources. These include Low- and Ultra-Low NOx Burners (LNB and ULNB), Over-Fire Air (OFA) systems, NOxOUT® and HERTTM Selective Non-Catalytic Reduction (SNCR) systems, and Advanced Selective Catalytic Reduction (ASCRTM) systems. The ASCR system includes ULNB, OFA, and SNCR components, along with a downsized SCR catalyst, Ammonia Injection Grid (AIG), and Graduated Straightening Grid (GSGTM) systems to provide high NOx reductions at significantly lower capital and operating costs than conventional SCR systems. The CASCADETM and NOxOUT-SCR® processes are basic types of ASCR systems, using just SNCR and SCR catalyst components. ULTRA™ technology creates ammonia at a plant site using safe urea for use with any SCR application. Flue gas conditioning systems are chemical injection systems offered in markets outside the U.S. and Canada to enhance electrostatic precipitator and fabric filter performance in controlling particulate emissions. Fuel Tech distributes its products through its direct sales force, licensees and agents.

FUEL CHEM Technologies

The FUEL CHEM® technology segment, which uses chemical processes in combination with advanced CFD and CKM boiler modeling, for the control of slagging, fouling, corrosion, opacity and other sulfur trioxide-related issues in furnaces and boilers through the addition of chemicals into the furnace using TIFI® Targeted In-Furnace Injection™ technology. Fuel Tech sells its FUEL CHEM program through its direct sales force and agents to industrial and utility power-generation facilities. At December 31, 2009, FUEL CHEM programs were installed on over 90 combustion units around the world, treating a wide variety of solid and liquid fuels, including coal, heavy oil, biomass and municipal waste. The FUEL CHEM program improves the efficiency, reliability and environmental status of plants operating in the electric utility, industrial, pulp and paper, waste-to-energy, university and district heating markets and offers numerous operational, financial and environmental benefits to owners of boilers, furnaces and other combustion units.

The key market dynamic for both technology segments is the continued use of fossil fuels, especially coal, as the principal fuel source for global electricity production. Coal accounts for approximately 50% of all U.S. electricity generation. Coal's share of global electricity generation is forecast to be approximately 45% by 2030. Major coal consumers include China, the United States and India.

Critical Accounting Policies and Estimates

The consolidated financial statements are prepared in accordance with accounting principles generally accepted in the United States of America, which require us to make estimates and assumptions. We believe that of our accounting policies (see Note 1 to the consolidated financial statements), the following involve a higher degree of judgment and complexity and are deemed critical. We routinely discuss our critical accounting policies with the Company's Audit Committee.

Revenue Recognition

Revenues from the sales of chemical products are recorded when title transfers, either at the point of shipment or at the point of destination, depending on the contract with the customer.

Fuel Tech uses the percentage of completion method of accounting for equipment construction and license contracts that are sold within the Air Pollution Control technology segment. Under the percentage of completion method, revenues are recognized as work is performed based on the relationship between actual construction costs incurred and total estimated costs at completion. Revisions in completion estimates and contract values in the period in which the facts giving rise to the revisions become known can influence the timing of when revenues are recognized under the percentage of completion method of accounting. Provisions are made for estimated losses on uncompleted contracts in the period in which such losses are determined. As of December 31, 2009, Fuel Tech had one construction contract in progress that was identified as a loss contract in the amount of \$166. As of December 31, 2008, Fuel Tech had no construction contracts in progress that were identified as loss contracts.

[Table of Contents](#)

Fuel Tech's APC contracts are typically six to twelve months in length. A typical contract will have three or four critical operational measurements that, when achieved, serve as the basis for us to invoice the customer via progress billings. At a minimum, these measurements will include the generation of engineering drawings, the shipment of equipment and the completion of a system performance test.

As part of most of its contractual APC project agreements, Fuel Tech will agree to customer-specific acceptance criteria that relate to the operational performance of the system that is being sold. These criteria are determined based on mathematical modeling that is performed by Fuel Tech personnel, which is based on operational inputs that are provided by the customer. The customer will warrant that these operational inputs are accurate as they are specified in the binding contractual agreement. Further, the customer is solely responsible for the accuracy of the operating condition information; all performance guarantees and equipment warranties granted by us are void if the operating condition information is inaccurate or is not met.

Accounts receivable includes unbilled receivables, representing revenues recognized in excess of billings on uncompleted contracts under the percentage of completion method of accounting. At December 31, 2009 and December 31, 2008, unbilled receivables were approximately \$7,814 and \$5,552, respectively. Billings in excess of costs and estimated earnings on uncompleted contracts were \$316 and \$1,223, at December 31, 2009 and December 31, 2008, respectively. Such amounts are included in other accrued liabilities on the consolidated balance sheet.

Fuel Tech has installed over 550 units with APC technology and has never failed to meet a performance guarantee when the customer has provided the required operating conditions for the project. As part of the project implementation process, we perform system start-up and optimization services that effectively serve as a test of actual project performance. We believe that this test, combined with the accuracy of the modeling that is performed, enables revenue to be recognized prior to the receipt of formal customer acceptance.

Allowance for Doubtful Accounts

In order to control and monitor the credit risk associated with our customer base, we review the credit worthiness of customers on a recurring basis. Factors influencing the level of scrutiny include the level of business the customer has with Fuel Tech, the customer's payment history and the customer's financial stability. Representatives of our management team review all past due accounts on a weekly basis to assess collectibility. At the end of each reporting period, the allowance for doubtful accounts balance is reviewed relative to management's collectibility assessment and is adjusted if deemed necessary. Our historical credit loss has been insignificant.

Assessment of Potential Impairments of Goodwill and Intangible Assets

Goodwill and indefinite-lived intangible assets are no longer amortized, but rather are reviewed annually (in the fourth quarter) or more frequently if indicators arise, for impairment. The Company does not have any indefinite-lived intangible assets other than goodwill. Such indicators include a decline in expected cash flows, a significant adverse change in legal factors or in the business climate, unanticipated competition, or slower growth rates, among others.

Goodwill is allocated among and evaluated for impairment at the reporting unit level, which is defined as an operating segment or one level below an operating segment. Fuel Tech has two reporting units which are reported in the FUEL CHEM segment and the APC Technology segment. As of December 31, 2009 and 2008, goodwill allocated to the FUEL CHEM Technology segment was \$1,723 and 1,723, respectively, while goodwill allocated to the APC Technology segment was \$19,328 and \$3,435, respectively. The \$15,893 increase in goodwill in the APC Technology segment is due to the acquisition of substantially all of the assets of Advanced Combustion Technology, Inc. on January 5, 2009.

The evaluation of impairment involves comparing the current fair value of the business to the carrying value. Fuel Tech uses a discounted cash flow (DCF) model to determine the current fair value of its two reporting units as this methodology was deemed to best quantify the present values of the Company's expected future cash flows and yield a fair value that should be in line with the aggregate market value placed on the Company via the current stock price multiplied by the outstanding common shares. A number of significant assumptions and estimates are involved in the application of the DCF model to forecast operating cash flows, including markets and market share, sales volumes and prices, costs to produce and working capital changes. Events outside the Company's control, specifically market conditions that impact revenue growth assumptions, could significantly impact the fair value calculated. These assumptions are, however, somewhat insensitive to these external events in all but the most egregious situations due to the relatively conservative nature upon which such future growth assumptions were developed. Management considers historical experience and all available information at the time the fair values of its reporting units are estimated. However, actual fair values that could be realized in an actual transaction may differ from those used to evaluate the impairment of goodwill.

The application of our DCF model in estimating the fair value of each reporting segment is based on the 'income' approach to business valuation. In using this approach for each reportable segment, we forecast segment revenues and expenses out to perpetuity and then discount the resulting cash flows back using an appropriate discount rate. The forecast considers, among other items, the current and expected business environment, expected changes in the fixed and variable cost structure as the business grows and a revenue growth rate that we feel is both achievable and sustainable. The discount rate used is composed of a number of identifiable risk factors, including equity risk and small company premiums, that when added together, results in a total return that a prudent investor would demand for an investment in our company.

[Table of Contents](#)

In the event the estimated fair value of a reporting unit per the DCF model is less than the carrying value, additional analysis would be required. The additional analysis would compare the carrying amount of the reporting unit's goodwill with the implied fair value of that goodwill, which may involve the use of valuation experts. The implied fair value of goodwill is the excess of the fair value of the reporting unit over the fair values assigned to all of the assets and liabilities of that unit as if the reporting unit was acquired in a business combination and the fair value of the reporting unit represented the purchase price. If the carrying value of goodwill exceeds its implied fair value, an impairment loss equal to such excess would be recognized, which could significantly and adversely impact reported results of operations and stockholders' equity.

Based upon the nature of the goodwill recorded on the balance sheets as of December 31, 2009 and 2008, the Company believes that, in order for an impairment to occur, a series of material prolonged negative economic events would have to occur. These events would most likely be seen in economic indicators such as suppressed consolidated revenues or Common Stock price, reduced cash flows or declining APC order backlog. Management does not believe that as pertains to Fuel Tech's business that certain negative economic events related to the global economic downturn are likely to be prolonged.

Impairment of Long-Lived Assets and Amortizable Intangible Assets

Long-lived assets, including property, plant and equipment (PP&E) and intangible assets, are reviewed for impairment when events and circumstances indicate that the carrying amount of the assets (asset groups) may not be recoverable. An impairment loss is recognized when estimated future undiscounted cash flows expected to result from the use of the asset (asset group) and its eventual disposition are less than the carrying amount. When quoted market prices are not available, various valuation techniques, including the discounted value of estimated future cash flows, are utilized. This process involves examining the operating condition of individual assets and estimating a fair value based upon its current condition, relevant market factors and remaining estimated operational life compared to remaining depreciable life. However, due to the nature of our PP&E, which is comprised mainly of assets related to our headquarters building and equipment deployed at customer locations for our FUEL CHEM programs, and the shorter-term duration over which FUEL CHEM equipment is depreciated, the likelihood of impairment is low. The discontinuation of a FUEL CHEM program at a customer site would most likely result in the re-deployment of all or most of the effected assets to another customer location rather than an impairment.

Valuation Allowance for Deferred Income Taxes

Deferred tax assets represent deductible temporary differences and net operating loss and tax credit carryforwards. A valuation allowance is recognized if it is more likely than not that some portion of the deferred tax asset will not be realized. At the end of each reporting period, Fuel Tech reviews the realizability of the deferred tax assets. As part of this review, we consider if there are taxable temporary differences that could generate taxable income in the future, if there is the ability to carry back the net operating losses or credits, if there is a projection of future taxable income, and if there are any tax planning strategies that can be readily implemented.

Stock-Based Compensation

Fuel Tech recognizes compensation expense for employee equity awards ratably over the requisite service period of the award. We utilize the Black-Scholes option-pricing model to estimate the fair value of awards. Determining the fair value of stock options using the Black-Scholes model requires judgment, including estimates for (1) risk-free interest rate – an estimate based on the yield of zero-coupon treasury securities with a maturity equal to the expected life of the option; (2) expected volatility – an estimate based on the historical volatility of Fuel Tech's Common Stock for a period equal to the expected life of the option; and (3) expected life of the option – an estimate based on historical experience including the effect of employee terminations. If any of these assumptions differ significantly from actual, stock-based compensation expense could be impacted.

Recently Adopted Accounting Standards

In June 2009, the Financial Accounting Standards Board (FASB) issued authoritative guidance establishing two levels of U.S. generally accepted accounting principles (GAAP) — authoritative and non-authoritative — and making the Accounting Standards Codification (ASC) the source of authoritative, non-governmental GAAP, except for rules and interpretive releases of the Securities and Exchange Commission. This guidance, which was incorporated into Accounting Standards Codification Topic 105, "Generally Accepted Accounting Principles," was effective for financial statements issued for interim and annual periods ending after September 15, 2009. The adoption changed certain disclosure references to U.S. GAAP, but did not have any other effect on the Company's consolidated financial statements.

In June 2009, the FASB issued revised authoritative guidance related to variable interest entities (VIE), which requires entities to perform a qualitative analysis to determine whether a variable interest gives the entity a controlling financial interest in a VIE. The guidance also requires an ongoing reassessment of variable interests and eliminates the quantitative approach previously required for determining whether an entity is the primary beneficiary. This guidance, which was incorporated into ASC Topic 810, "Consolidation," will be effective as of the beginning of an entity's first annual reporting period that begins after November 15, 2009 (January 1, 2010 for the Company). The implementation of this standard did not have a material effect on the Company's consolidated financial statements.

[Table of Contents](#)

In May 2009, the FASB issued authoritative guidance establishing general standards of accounting for and disclosure of events that occur after the balance sheet date but before financial statements are issued. This guidance, which was incorporated into ASC Topic 855, "Subsequent Events," was effective for interim or annual financial periods ending after June 15, 2009, and the adoption did not have any impact on the Company's consolidated financial statements. We have evaluated subsequent events through March 4, 2010, the date this report on Form 10-K was filed with the U.S. Securities and Exchange Commission. We made no significant changes to our consolidated financial statements as a result of our subsequent events evaluation.

In April 2009, the FASB issued updated guidance related to business combinations, which is included in the Codification in ASC 805-20, "Business Combinations — Identifiable Assets, Liabilities and Any Non-controlling Interest." ASC 805-20 amends the provisions in ASC 805 for the initial recognition and measurement, subsequent measurement and accounting, and disclosures for assets and liabilities arising from contingencies in business combinations. ASC 805-20 is effective for contingent assets or contingent liabilities acquired in business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after December 15, 2008. See Note 2 for a discussion of the adoption impact.

2009 versus 2008

Revenues for the years ended December 31, 2009 and 2008 were \$71,397 and \$81,074, respectively. The year-over-year decrease of \$9,677, or 12%, was driven by reduced orders in the APC technology segment.

Revenues for the APC technology segment were \$34,721 for the year ended December 31, 2009, a decrease of \$9,672, or 22%, versus fiscal 2008. The global financial crisis coupled with domestic regulatory uncertainty regarding the eventual timing of the implementation of the Clean Air Interstate Rule (CAIR) contributed to an across-the-board slowdown of capital project orders for pollution control equipment from our customer base which had a negative effect on segment revenues and the APC order backlog. While revenues are down from the prior year, this segment remains uniquely positioned to capitalize on the next phase of increasingly stringent U.S. and Chinese air quality standards, specifically on NOx control. Interest in Fuel Tech's suite of pollution control technologies, on both a new and retrofit basis, remains strong, both domestically and abroad, and 2009 quotation and order activity was substantially in excess of that experienced in 2008. During 2009, Fuel Tech announced new APC contracts valued at approximately \$37,800.

Revenues for the FUEL CHEM technology segment for the year ended December 31, 2009 were \$36,676, substantially on par with the record revenues reported for the year ended December 31, 2008 of \$36,681. This segment's ability to generate revenues comparable to prior year levels demonstrates the continued market acceptance of Fuel Tech's patented TIFI Targeted In-Furnace Injection technology, particularly on coal-fired units, which represent the largest market opportunity for the technology.

During 2009, Fuel Tech added 10 new units to its customer base, four of which were coal-fired units. The addition of these customer units, which historically average approximately \$1,000 in annual revenues once converted to commercial status, and increased project demonstration activity helped mitigate the decrease in demand for electricity, largely related to the economic recession, that has dictated that certain Fuel Tech customers shut down or scale back some boiler operations. This, in turn, has resulted in some FUEL CHEM programs being operated at reduced levels or, in some cases, being temporarily turned off. Historically, most demonstrations convert into commercial accounts.

During a FUEL CHEM demonstration period, the Company will typically absorb all of the direct costs (e.g., chemicals, on-site personnel, equipment depreciation and demonstration-related travel expenses) and indirect costs of operating the demonstration and will offset these costs with partial billings to the customer. While each demonstration is unique, a typical demonstration will operate for 90 days and the Company will accumulate future billing amounts that will usually be invoiced to the customer only if the FUEL CHEM program converts to commercial status. These amounts may range from less than \$100 to over \$1,000 depending on the quantity of chemical fed, the agreed-upon cost sharing arrangement and the length of the demonstration program.

During the demonstration period, the aggregate cost of all FUEL CHEM demonstration programs will have a dilutive effect on the segment gross margin percentage as the related revenues earned will approximate the costs incurred and result in nominal gross margin dollars being recorded. In certain situations, the Company agrees to fully fund a demonstration program due to the strategic importance of its success and conversion to commercial status. In these cases, the specific program's recognized revenues will be zero and the gross margin dollar contribution will be negative by the amount of the program's cost, thus even further diluting the segment's gross margin percentage.

Cost of sales for the year ended December 31, 2009 and 2008 was \$42,444 and \$44,345, respectively. Cost of sales as a percentage of revenues for the years ended December 31, 2009 and 2008 was 59% and 54%, respectively. Cost of sales as a percentage of revenue for the APC technology segment increased to 62% in 2009 from 55% in 2008. The increase is attributed to the mix of lower margin project business, including one large contract with a significant amount of lower margin installation work and the pass through of approximately \$2.2 million in catalyst sales at a nominal mark-up percentage. Cost of sales as a percentage of revenue for the FUEL CHEM technology segment increased to 57% in 2009 from 55% in 2008 primarily due to increased chemical manufacturing costs.

Table of Contents

Selling, general and administrative expenses for the years ended December 31, 2009 and 2008 were \$31,492 and \$28,402, respectively. The increase of \$3,090, or 11%, is attributed to the following:

- Personnel and other expenses related to the acquisitions of substantially all of the assets of Tackticks LLC, FlowTack LLC, and ACT contributed additional incremental expenses of \$2,292 for fiscal 2009.
- The implementation of a new sales commission program for both the APC and FUEL CHEM technology segments resulted in an increase of \$793 in commission expense.
- The Company also incurred year-over-year increases in depreciation expense of \$395 driven by the acceleration of leasehold improvement amortization expense related to the termination of the current Stamford office lease, legal fees of \$250 due to international contracts and acquisition-related activities, and accounting and auditing fees of \$109 primarily related to acquisition-related activities.
- Partially offsetting these amounts were a \$781 one-time gain from the revaluation of the contingent liability related to the ACT acquisition.

Research and development expenses were \$542 and \$2,100 for the years ended December 31, 2009 and 2008, respectively. The decline in expenditures is due to the Company moderating its near-term R&D expenditures in the wake of the global financial crisis. However, Fuel Tech maintained its focused approach in the pursuit of commercial applications for its technologies outside of its traditional markets, and in the development and analysis of new technologies that could represent incremental market opportunities domestically and abroad.

Interest income for the year ended December 31, 2009 decreased by \$709 to \$32 versus 2008 predominantly due to reductions in cash balances on hand as a result of the cash outlay for the acquisitions of substantially all of the assets of Tackticks, LLC and FlowTack, LLC, and ACT coupled with a decrease in the average return in the Company's interest-bearing accounts in which the cash is invested. Interest expense of \$120 was recorded in 2009 primarily due to the debt incurred to start-up activities at Fuel Tech's office in Beijing, China. Finally, the modest change in other income / (expense) is due to the impact of foreign exchange rates as it relates to balances denominated in foreign currencies and is translation, not transaction, in nature.

For the year end December 31, 2009, Fuel Tech recorded an income tax benefit of \$1,104 on the Company's pre-tax loss of (\$3,410). For the year ended December 31, 2008, Fuel Tech recorded income tax expense of \$3,247 on pre-tax income of \$6,607.

2008 versus 2007

Revenues for the years ended December 31, 2008 and 2007 were \$81,074 and \$80,297, respectively. The year-over-year increase of \$777, or 1%, was driven by a 13% increase in revenues from the FUEL CHEM technology segment that were largely offset by a modest revenue decline in the APC technology segment.

Revenues for the APC technology segment were \$44,393 for the year ended December 31, 2008, a decrease of \$3,357, or 7%, versus 2007. The global financial crisis and the vacatur of the Clean Air Interstate Rule (CAIR) in July 2008 (subsequently remanded in December 2008) had a negative effect on segment revenues and APC order backlog. This segment is well positioned to capitalize on CAIR — the next phase of increasingly stringent U.S. air quality standards — which is effective January 1, 2009, and the Clean Air Visibility Rule (CAVR), which is effective January 1, 2013. Thousands of utility and industrial boilers will be impacted by these regulations and Fuel Tech's technologies will serve as an important element in enabling utility and industrial boiler unit owners to attain compliance. During 2008, Fuel Tech announced new contracts valued at approximately \$21,000.

Revenues for the FUEL CHEM technology segment were \$36,681 for the year ended December 31, 2008, an increase of \$4,134, or 13%, versus 2007. This segment's growth is indicative of the continued market acceptance of Fuel Tech's patented TIFI Targeted In-Furnace Injection technology, particularly on coal-fired units, which represent the largest market opportunity for the technology, both domestically and abroad. During 2008, Fuel Tech added 15 new units to its customer base, 13 of which were coal-fired units, the largest annual total in the Company's history. As these units were added in 2008 they generated incremental revenues versus 2007 and were the primary reason for the year-over-year increase in segment revenues. Historically, most demonstrations convert into commercial accounts.

During a FUEL CHEM demonstration period, the Company will typically absorb all of the direct costs (e.g., chemicals, on-site personnel, equipment depreciation and demonstration-related travel expenses) and indirect costs of operating the demonstration and will offset these costs with partial billings to the customer. While each demonstration is unique, a typical demonstration will operate for 90 days and the Company will accumulate future billing amounts that will usually be invoiced to the customer only if the FUEL CHEM program converts to commercial status. These amounts may range from less than \$100 to over \$1,000 depending on the quantity of chemical injection, the agreed-upon cost sharing arrangement and the length of the demonstration program.

[Table of Contents](#)

During the demonstration period, the aggregate cost of all FUEL CHEM demonstration programs will have a dilutive effect on the segment gross margin percentage as the related revenues earned will approximate the costs incurred and result in nominal gross margin dollars being recorded. In certain situations, the Company agrees to fully fund a demonstration program due to the strategic importance of its success and conversion to commercial status. In these cases, the specific program's recognized revenues will be zero and the gross margin dollar contribution will be negative by the amount of the program's cost, thus even further diluting the segment's gross margin percentage.

Cost of sales for the years ended December 31, 2008 and 2007 was \$44,345 and \$42,471, respectively. Cost of sales as a percentage of revenues for the years ended December 31, 2008 and 2007 was 54% and 53%, respectively. The 2008 cost of sales percentage for the APC technology segment increased to 55% from 54% in 2007. The increase is attributable to the mix of project business. The cost of sales percentage for the FUEL CHEM technology segment increased from 51% in 2007 to 55% in 2008 due to incremental costs associated with demonstration programs and other related start-up activities related to the record number of new incremental units noted above, especially for the demonstrations in India and China. During 2008, the Company invested \$888 and \$300, primarily in engineering labor and chemicals, for FUEL CHEM demonstration programs in India and China, respectively. In addition, the aggregate 2008 FUEL CHEM demonstration expenses for new units in the U.S. was approximately \$930. These demonstration programs resulted in a 2008 cost of sales percentage increase of 5.9% versus 2007.

Selling, general and administrative expenses for the years ended December 31, 2008 and 2007 were \$28,402 and \$24,950, respectively. The \$3,452 increase over 2007 is principally attributable to the following:

- Fuel Tech recorded \$5,815 in stock compensation expense in 2008 in accordance with ASC 718, as discussed in Note 7 to the consolidated financial statements. This amount represented a \$1,024 increase over 2007, attributable to stock option awards to Directors and certain Fuel Tech employees in 2008 and the on-going expense recognition related to stock options awarded in prior years.
- Fuel Tech invested approximately \$2,000 in personnel and other costs, including expenses associated with the start-up of the Company's Beijing, China office, in the areas of Engineering, Sales, Marketing and Administration to ensure the Company's financial and operational infrastructure are able to accommodate anticipated future growth.
- Partially offsetting this unfavorable variance was a reduction in annual incentive expenses of \$1,500 as the minimum income threshold for the year ended December 31, 2008 was not met and, thus, no 2008 bonus payments were made under the Company's incentive plan.
- The Company also incurred incremental year-over-year expense increases in the following areas: consulting services increased \$486 driven by expertise required in certain foreign countries for initial market penetration and domestic financial advisory services; acquisition-related expenses of \$390, insurance expense increased \$210 due to general inflation, the addition of new policies, increased coverage on certain policies and an increase in insurable assets; recruiting fees increased \$316 due to the costs associated with adding one new member to our Board of Directors and the hiring of a new Chief Financial Officer; and non-income taxes increased \$199 due primarily to a foreign business tax increase and additional real estate taxes on the Company's new headquarters facility.

Research and development expenses were \$2,100 and \$2,137 for the years ended December 31, 2008 and 2007, respectively. Fuel Tech has established a more focused approach in the pursuit of commercial applications for its technologies outside of its traditional markets, and in the development and analysis of new technologies that could represent incremental market opportunities.

Interest income for the year ended December 31, 2008 decreased by \$893 versus 2007 due to decreases in the interest rates paid by institutions with whom the Company's investments were located. Further, Fuel Tech recorded interest expense of \$135 in 2008 related specifically to a short-term credit facility that was used to support the start-up of Fuel Tech's office in Beijing, China. Finally, the change in other income (expense) is due largely to the impact of foreign exchange rates related to balances denominated in foreign currencies.

For the year ended December 31, 2008, Fuel Tech recorded tax expense of \$3,247. For the year ended December 31, 2007, Fuel Tech recorded tax expense of \$5,187 that predominantly represented deferred tax expense related to taxable income recognized in 2007.

Liquidity and Sources of Capital

At December 31, 2009, Fuel Tech had cash and cash equivalents of \$20,965 and working capital of \$30,578 versus cash and cash equivalents of \$28,149 and working capital of \$43,956 at December 31, 2008. Operating activities provided \$13,527 of cash for the year ended December 31, 2009, primarily due to a decrease in accounts receivable of \$5,488 due to the timing of customer receipts, and the add back of non-cash items including stock compensation expense of \$6,001, depreciation expense of \$3,796 and amortization expense of \$1,312 and a decrease in prepaid expenses of \$3,293. Partially offsetting these items were a net loss due to unfavorable business operations of \$2,390, a decrease in accounts payable of \$2,372 due to the timing of vendor invoices and related payments, and a decrease in income tax provision of \$1,492.

[Table of Contents](#)

Operating activities provided \$8,047 of cash for the year ended December 31, 2008, primarily due to the favorable operating results of the business segments and that resulted in net income of \$3,360, a decrease in accounts receivable of \$8,491 due to the timing of customer receipts, and the add back of non-cash items including stock compensation expense of \$5,815, depreciation expense of \$2,810 and amortization expense of \$184. Partially offsetting these items were a decrease in accounts payable of \$5,436 due to the timing of vendor invoices and related payments, an increase in prepaid expense of \$3,509, and a decrease in accrued and other non-current liabilities of \$3,720.

Investing activities used cash of \$22,389 for the year ended December 31, 2009. This amount was comprised of three items: the acquisition of substantially all of the assets of ACT required a total funding of \$20,185; capital expenditures of \$2,004, primarily to support and enhance the operations of the FUEL CHEM technology segment; and an increase in restricted cash of \$200 to support the transfer of pre-existing stand-by letters of credit and bank guarantees from Wachovia to JPM Chase. Other than the outfitting of the new corporate headquarters building in 2008, the Company has historically incurred a nominal amount of maintenance capital expenditures.

The Company generated cash from financing activities for the year ended December 31, 2009 of \$1,596, primarily from the excess tax benefits realized of \$605 from stock options exercised during the year and from additional borrowings of \$737 to support the growth of the Beijing office.

On June 30, 2009, Fuel Tech entered into a \$25,000 revolving credit facility (the "Facility") with JPMorgan Chase Bank, N.A (JPM Chase). The Facility has a term of two years through June 30, 2011, is unsecured, bears interest at a rate of LIBOR plus a spread range of 250 basis points to 300 basis points, as determined under a formula related to the Company's leverage ratio, and has the Company's Italian subsidiary, Fuel Tech S.r.l., as a guarantor. Fuel Tech can use this Facility for cash advances and standby letters of credit. As of December 31, 2009, there were no outstanding borrowings on this Facility. The Company's prior facility with Wachovia Bank, N.A. was terminated on June 30, 2009.

At its inception, the Facility contained several debt covenants with which the Company must comply on a quarterly or annual basis, including: an annual capital expenditure limit of \$10,000 and a minimum net income for the quarterly period ended September 30, 2009 of \$750. For subsequent periods, the Facility covenants included a maximum funded debt to EBITDA ratio of 2.0:1.0 for the quarterly period ended December 31, 2009 and a maximum funded debt to EBITDA ratio of 1.5:1.0 for all succeeding quarterly periods until the facility expires. Maximum funded debt is defined as all borrowed funds, outstanding standby letters of credit and bank guarantees. EBITDA includes after tax earnings with add backs for interest expense, income taxes, and depreciation and amortization expenses. In addition, the Company must maintain a minimum tangible net worth of \$42,000, adjusted upward for 50% of net income generated and 100% of all capital issuances.

At December 31, 2009, the Company was in compliance with all loan covenants on the Facility, including a year-to-date capital expenditure amount of \$2,004, an actual quarterly net income of \$232 and a tangible net worth amount of \$50,422, which was above the required amount of \$47,477 by \$2,945. Due to the Company's quarterly net loss of (\$698) for the three-month period ended September 30, 2009, however, the Company was in breach of its minimum quarterly net income covenant of \$750. The Company amended the Facility to obtain a waiver of this covenant breach from JPM Chase for the quarterly period ended September 30, 2009 and revised certain financial covenants as follows: for the three-month period ended December 31, 2009 the Company shall achieve a Minimum Net Income of (\$2,000), and for the three-month period ended March 31, 2010 the Company's Leverage Ratio shall not exceed 2.75:1.0. The purchase price for allowable acquisitions made during any fiscal year was also lowered to \$5,000 in the aggregate if the Leverage Ratio is greater than 2.75:1.0. No other Facility covenants were modified for any other period. The Company's spread matrix for fees paid on items such as standby letters of credit was adjusted upward to include additional tiers tied to the quarterly calculated Leverage Ratio.

Beijing Fuel Tech Environmental Technologies Company, Ltd. (Beijing Fuel Tech), a wholly-owned subsidiary of Fuel Tech, has a revolving credit facility (the "China Facility") agreement with JPM Chase for RMB 35 million (approximately \$5,000), which expires on June 30, 2010. The facility is unsecured, bears interest at a rate of 120% of the People's Bank of China (PBOC) Base Rate and does not contain any material debt covenants. Beijing Fuel Tech can use this facility for cash advances and bank guarantees. As of December 31, 2009, Beijing Fuel Tech has borrowings outstanding in the amount \$2,925.

At December 31, 2009, the Company had outstanding standby letters of credit and bank guarantees, predominantly to customers, totaling approximately \$5,823 in connection with contracts in process. Fuel Tech is committed to reimbursing the issuing bank for any payments made by the bank under these instruments. At December 31, 2009, there were no cash borrowings under the revolving credit facility and approximately \$19,177 was available. Management has met with the Company's lending institutions and, during the course of those meetings, was not made aware of any information indicating that they will not be able to perform their obligations for any letters of credit or guarantees issued, nor be unable to supply funds to Fuel Tech if the Company chooses to borrow funds under its two revolving credit facilities.

In the event of default on either the JPM Chase domestic facility or the JPM Chase China facility, the cross default feature in each allows the lending bank to accelerate the payments of any amounts outstanding and may, under certain circumstances, allow the bank to cancel the facility. If the Company were unable to obtain a waiver for a breach of covenant and the bank accelerated the payment of any outstanding amounts, such acceleration may cause the Company's cash position to deteriorate or, if cash on hand were insufficient to satisfy the payment due, may require the Company to obtain alternate financing to satisfy the accelerated payment.

[Table of Contents](#)

Interest payments in the amount of \$120, \$135 and \$24 were made during the years ended December 31, 2009, 2008 and 2007, respectively.

In the opinion of management, Fuel Tech's expected near-term revenue growth will be driven by the timing of penetration of the coal-fired utility marketplace via utilization of its TIFI technology, by utility and industrial entities' adherence to the NOx reduction requirements of the various domestic environmental regulations, and by the expansion of both business segments in non-U.S. geographies. Fuel Tech expects its liquidity requirements to be met by the operating results generated from these activities.

Contractual Obligations and Commitments

In its normal course of business, Fuel Tech enters into agreements that obligate Fuel Tech to make future payments. The operating lease obligations noted below are primarily related to supporting the operations of the business.

There are no purchase obligations in the table below

Contractual Cash Obligations	Payments due by period in thousands of dollars				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Short-Term Debt Obligations	\$2,925	\$2,925	\$ —	\$ —	\$ —
Estimated interest payments on long-term debt obligations*	170	170	—	—	—
Operating Lease Obligations	3,955	623	1,075	807	1,450
Total	\$7,050	\$3,718	\$1,075	\$807	\$1,450

* Long-term debt obligations consist solely of borrowings under the Company's Chinese revolving credit facility which bears interest at a rate of 120% of the People's Bank of China (PBOC) Base Rate, or 5.8%, at December 31, 2009.

Interest payments in the amount of \$120, \$135 and \$24 were made during the years ended December 31, 2009, 2008 and 2007, respectively.

Fuel Tech, in the normal course of business, uses bank performance guarantees and letters of credit in support of construction contracts with customers as follows:

- in support of the warranty period defined in the contract; or
- in support of the system performance criteria that are defined in the contract.

In addition, Fuel Tech uses letters of credit as security for other obligations as needed in the normal course of business. As of December 31, 2009, Fuel Tech had outstanding bank performance guarantees and letters of credit as noted in the table below:

Commercial Commitments	Commitment expiration by period in thousands of dollars				
	Total	Less than 1 year	2-3 years	4-5 years	Thereafter
Standby letters of credit and bank guarantees	\$5,622	\$4,819	\$165	\$638	\$ —

[Table of Contents](#)

The following table summarizes Fuel Tech's ASC 740 obligations as of December 31, 2009. Please refer to Note 4 to the consolidated financial statements in this document for a description of our ASC 740 obligations.

Commitment expiration by period in thousands of dollars					
Commercial Commitments	Total	Less than 1 year	2-3 years	4-5 years	Thereafter
ASC 740 Obligations	\$724	\$ —	\$ —	\$ —	\$ 724

Off-Balance-Sheet Transactions

There were no off-balance-sheet transactions during the two-year period ended December 31, 2009.

Subsequent Events

The Company evaluated its December 31, 2009 consolidated financial statements for subsequent events through March 3, 2010, the date the consolidated financial statements were available to be issued. The Company is not aware of any subsequent events which would require recognition in the consolidated financial statements.

ITEM 7A - QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Fuel Tech's earnings and cash flow are subject to fluctuations due to changes in foreign currency exchange rates. We do not enter into foreign currency forward contracts or into foreign currency option contracts to manage this risk due to the immaterial nature of the transactions involved.

Fuel Tech is also exposed to changes in interest rates primarily due to its long-term debt arrangement (refer to Note 9 to the consolidated financial statements). A hypothetical 100 basis point adverse move in interest rates along the entire interest rate yield curve would not have a materially adverse effect on interest expense during the upcoming year ended December 31, 2010.

20

[Table of Contents](#)**ITEM 8 — FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA****Report of Independent Registered Public Accounting Firm on Internal Control Over Financial Reporting**

The Board of Directors and Stockholders
Fuel Tech, Inc.

We have audited Fuel Tech, Inc (a Delaware corporation) and Subsidiaries' (the "Company") internal control over financial reporting as of December 31, 2009 based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included the accompanying Management's Report on Internal Control Over Financial Reporting appearing under Item 9A. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, Fuel Tech and Subsidiaries maintained, in all material respects, effective internal control over financial reporting as of December 31, 2009, based on criteria established in *Internal Control – Integrated Framework* issued by COSO.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of the Company as of December 31, 2009 and 2008 and the related consolidated statements of operations, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2009, and our report dated March 4, 2010 expressed an unqualified opinion on those financial statements.

/s/ GRANT THORNTON LLP

Chicago, Illinois
March 4, 2010

[Table of Contents](#)**Report of Independent Registered Public Accounting Firm**

The Board of Directors and Stockholders
Fuel Tech, Inc.

We have audited the accompanying consolidated balance sheets of Fuel Tech, Inc. (a Delaware corporation) and Subsidiaries (the "Company") as of December 31, 2009 and 2008, and the related consolidated statements of operations, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2009. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Fuel Tech, Inc. and Subsidiaries as of December 31, 2009 and 2008 and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2009, in conformity with accounting principles generally accepted in the United States of America.

As discussed in Note 2 to the consolidated financial statements, the Company adopted new accounting guidance on January 1, 2009 related to the accounting for business combination.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the effectiveness of the Company's internal control over financial reporting as of December 31, 2009, based on the criteria established in *Internal Control – Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) and our report dated March 4, 2010 expressed an unqualified opinion on the effective operation of internal control over financial reporting.

/s/ GRANT THORNTON LLP

Chicago, Illinois
March 4, 2010

[Table of Contents](#)

Fuel Tech, Inc.
Consolidated Balance Sheets
(in thousands of dollars, except share and per-share data)

December 31	2009	2008 As Adjusted, See Note 2
ASSETS		
Current assets:		
Restricted cash	\$ 200	\$ —
Cash and cash equivalents	20,965	28,149
Accounts receivable, net of allowance for doubtful accounts of \$70 and \$80, respectively	17,877	23,365
Inventories	450	1,014
Deferred income taxes	636	767
Prepaid expenses and other current assets	2,294	4,328
Total current assets	42,422	57,623
Property and equipment, net of accumulated depreciation of \$14,562 and \$12,588, respectively	15,549	17,515
Goodwill	21,051	5,158
Other intangible assets, net of accumulated amortization of \$2,817 and \$1,504, respectively	6,749	2,543
Deferred income taxes	4,183	2,560
Other assets	2,308	3,232
Total assets	\$ 92,262	\$ 88,631
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Short-term debt	\$ 2,925	\$ 2,188
Accounts payable	5,824	8,196
Accrued liabilities:		
Employee compensation	671	510
Other accrued liabilities	2,424	2,773
Total current liabilities	11,844	13,667
Other liabilities	2,196	1,389
Total liabilities	14,040	15,056
Stockholders' equity:		
Common stock, \$.01 par value, 40,000,000 shares authorized, 24,211,967 and 24,110,967 shares issued, respectively	242	241
Additional paid-in capital	125,458	118,588
Accumulated deficit	(47,828)	(45,522)
Accumulated other comprehensive income	269	187
Nil coupon perpetual loan notes	81	81
Total stockholders' equity	78,222	73,575
Total liabilities and stockholders' equity	\$ 92,262	\$ 88,631

See notes to consolidated financial statements.

[Table of Contents](#)

Fuel Tech, Inc.
Consolidated Statements of Operations
(in thousands of dollars, except share and per-share data)

	2009	2008 As Adjusted, See Note 2	2007
For the years ended December 31			
Revenues	\$ 71,397	\$ 81,074	\$ 80,297
Costs and expenses:			
Cost of sales	42,444	44,345	42,471
Selling, general and administrative	32,273	28,402	24,950
Gain on revaluation of ACT liability	(781)	—	—
Research and development	542	2,100	2,137
	74,478	74,847	69,558
Operating (loss) income	(3,081)	6,227	10,739
Interest expense	(120)	(135)	(24)
Interest income	32	741	1,634
Other (expense) / income	(241)	(226)	81
(Loss) Income before taxes	(3,410)	6,607	12,430
Income tax benefit / (expense)	1,104	(3,247)	(5,187)
Net (loss) income	\$ (2,306)	\$ 3,360	\$ 7,243
Net (loss) income per Common Share:			
Basic	\$ (0.10)	\$ 0.14	\$ 0.33
Diluted	\$ (0.10)	\$ 0.14	\$ 0.29
Weighted-average number of Common Shares outstanding:			
Basic	24,148,000	23,608,000	22,280,000
Diluted	24,148,000	24,590,000	24,720,000

See notes to consolidated financial statements.